Figure 10 illustrates a notify cancel command type FCP data frame according to an alternative embodiment of the present invention.

Figure 11 illustrates a flowchart of the steps within the method of the preferred embodiment of the present invention implemented at a controlling device.

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Figure 12 illustrates a flowchart of the steps within the method of the preferred embodiment of the present invention implemented at a target device.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT:

A block diagram of an exemplary IEEE 1394-2000 serial bus network including a

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computer system and a video camera is illustrated in Figure 6. The computer system 110 includes an associated display 112 and is coupled to the video camera 114 by the IEEE 1394-2000 serial bus cable 116. Video data and associated data are sent between the video camera 114 and the computer 110 over the IEEE 1394-2000 serial bus cable 116. As described herein, the video camera 114 and the computer 110 can be either the controlling device or the

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target device.

A block diagram of the internal components of the computer system 110 is illustrated in Figure 7. The computer system 110 includes a central processor unit (CPU) 120, a main memory 130, a video memory 122, a mass storage device 132 and an IEEE 1394-2000 interface circuit 128, all coupled together by a conventional bidirectional system bus 134.

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The interface circuit 128 includes the physical interface circuit 142 for sending and receiving communications over the IEEE 1394-2000 serial bus. The physical interface circuit 142 is coupled to the camera 114 over the IEEE 1394-2000 serial bus cable 116. In the preferred embodiment of the present invention, the interface circuit 128 is implemented on an IEEE 1394-2000 interface card within the computer system 110. However, it should be apparent to

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those skilled in the art that the interface circuit 128 can be implemented within the computer system 110 in any other appropriate manner, including building the interface circuit onto the motherboard itself. The mass storage device 132 may include both fixed and removable media using any one or more of magnetic, optical or magneto-optical storage technology or

any other available mass storage technology. The system bus 134 contains an address bus for addressing any portion of the memory 122 and 130. The system bus 134 also includes a data bus for transferring data between and among the CPU 120, the main memory 130, the video memory 122, the mass storage device 132 and the interface circuit 128.

5   The computer system 110 is also coupled to a number of peripheral input and output devices including the keyboard 138, the mouse 140 and the associated display 112. The keyboard 138 is coupled to the CPU 120 for allowing a user to input data and control commands into the computer system 110. A conventional mouse 140 is coupled to the keyboard 138 for manipulating graphic images on the display 112 as a cursor control device.

10   A port of the video memory 122 is coupled to a video multiplex and shifter circuit 124, which in turn is coupled to a video amplifier 126. The video amplifier 126 drives the display 112. The video multiplex and shifter circuitry 124 and the video amplifier 126 convert pixel data stored in the video memory 122 to raster signals suitable for use by the display 112.

15   The method and apparatus of the present invention includes a mechanism which allows a controlling device to cancel a pending notify command. Utilizing the method and apparatus of the present invention, a controlling device has the ability to cancel a pending notify command, by preferably sending a status command while the notify command is pending. Alternatively, a duplicate notify command is sent by a controlling device to a target device to cancel a notify command pending at the target device. In a still further alternative 20 device to cancel a notify command pending at the target device. In a still further alternative embodiment, a notify cancel command is sent by a controlling device to a target device to cancel a notify command pending at the target device.

A target device which receives a notify command from a controlling device, first sends an interim response to the controlling device. When the state of the target device changes, 25 the target device then sends a notify response to the controlling device. In the preferred embodiment of the present invention, before the state of the target device changes, while the notify command is pending, if the target device receives a status command, the target device then cancels the pending notify command. Alternatively, while the notify command is

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pending, if the target device receives the same notify command again, the target device then cancels the pending notify command. In a still further alternative embodiment, while the notify command is pending, if the target device receives a notify cancel command, then the target device cancels the pending notify command.

5   A data flow diagram showing the flow of transactions for cancelling a pending notify command of the preferred embodiment of the present invention is illustrated in Figure 8. A notify command is first sent from the controlling device 180 to a target device 182. Because this is a deferred transaction, the target device 182 then sends an interim response to the controlling device 180. If at some time while the notify command is still pending, it is

10   necessary for the controlling device 180 to cancel the pending notify command, the controlling device 180 then sends a status command to the target device 182. When the target device 182 receives a status command from the same controlling device 180 while a notify command is pending, the target device 182 preferably cancels the pending notify command and issues a stable response to the status command.

15   A data flow diagram showing the flow of transactions for cancelling a pending notify command of an alternative embodiment of the present invention is illustrated in Figure 9. A notify command is first sent from the controlling device 180 to a target device 182. Because this is a deferred transaction, the target device 182 then sends an interim response to the controlling device 180. If at some time while the notify command is still pending, it is

20   necessary for the controlling device 180 to cancel the pending notify command, the controlling device 180 then sends the same notify command again to the target device 182. When the target device 182 receives a notify command which is the same as a pending notify command, the target device then cancels the pending notify command and issues a stable response to the controlling device 180.

25   In a further alternative embodiment of the present invention, a new notify cancel command type is added. This mechanism is not preferred because a new AV/C command type is defined and therefore a reserved value of the ctype data field is used to signify the new notify cancel command type. The notify cancel command type of this alternative